

APPENDIX III

SAMPLE SURVEY FIELD NOTES

The field notes contained in this Appendix are presented to show you, the EA2 survey party chief or the EA1 supervisor, how a series of notes are indexed and arranged in a field notebook. For completeness, the field notes shown in appendix V of the EA3 TRAMAN are repeated in this Appendix.

The field notes in this Appendix are samples of the types of notes that are kept in surveying. They are not intended to describe how the notes should be kept. That is up to you. You are the one who decides what minimum information is necessary to achieve complete notes, and you are the one who decides how that information is to be recorded. As you are well aware, note keeping is not only an art that makes your notes clean and legible but it is also a science that makes your notes meaningful and correct.

Figures AIII-1 and AIII-2 are samples of the front page and index of a notebook. The front page should be filled out as required by your unit. A separate book should, when possible, be kept for each major project. The index should show all surveying projects by page number and must be kept up-to-date at all times.

An example of recording horizontal measurements is shown in figure AIII-3. To record taping problems, record distance measured (by parts of tapes, if measured) going from one station to the next. Record in the direction in which measured; that is, down for forward measurements, up for backward measurements.

A page check of a direct-level circuit is shown in figure AIII-4. As you recall, when page checking you are determining that the difference between the sum of the backlights and the sum of the forsights is equal to the difference in elevation between the initial benchmark or turning point and the final benchmark or turning point. For direct-level notes exceeding one page, the page check should always be made for each separate page of the notes. The final page should, in addition, show also a check from start to finish of the entire circuit. Remember, too, that when making a page check, you are checking only the accuracy of the arithmetic, not the accuracy of the level shots.

Figure AIII-5 shows horizon closure for a traverse station. In this example, each angle was repeated twice,

once direct and once reverse, using the procedures you studied in chapter 13 of the EA3 TRAMAN for measuring angles by repetition.

Turn all angles, direct and reverse, to the right. Enter means, and if mean does not match single reading to $\pm 30''$, reshoot the angles. Never proceed to the next station until horizon closure ($360^\circ \pm 30''$) has been achieved.

Figures AIII-6 and AIII-7 show, respectively, notes for a station-angle traverse and a deflection-angle traverse.

DEPARTMENT OF THE NAVY
THIRTY FIRST NAVAL CONSTRUCTION REGIMENT
NMCB FOUR
LEVEL, TRANSIT, AND GENERAL SURVEY
RECORD BOOK
<u>PORT HUENEME, CALIFORNIA</u>
LOCALITY
<u>BLDG & ROAD LAYOUT, NORTH DRIVE</u>
PROJECT
BOOK <u>2</u> OF <u>4</u>
<u>THEODOLITE WILD T 16</u>
INSTRUMENT
<u>EA 2 W. J. BROWN</u>
CHIEF OF PARTY
IMPORTANT
On the opposite page, print the address to which this book is to be returned, if lost.

Figure AIII-1.—Front page of a notebook.

DESIGNATION TRAVEL # 27A DATE 16 JAN 19 84

M HAMMEY EA2
 HT TILKIN EA3
 RT SMITH EA3

INST 100 FT STL TAPE
 TENSION 16 LBS

Figure AIII-3.—Horizontal taping.

is the ground elevation at that point, the center number is the rod reading, and the bottom number is the perpendicular distance to the centerline. An additional example of profile levels is shown in figure AIII-13.

Slope-stake notes (fig. AIII-14), as with profile notes, are best recorded from the bottom to the top of the page. As you see in the figure, in addition to grade rod, the right-hand page of the notes has left, center-line, and right columns. In these columns the amount of cut or fill, ground rod, and the distance of the slope stakes from the center line are recorded for each station.

Notes for a building layout are shown in figure AIII-15. Building corner numbers on the sketch must agree with the designation on the left-hand side of the notes. Grade rod setting is computed in the field. Batter elevations are entered in the first column on the right-hand side of the notes—after having been computed at the jobsite. The sketch must show all pertinent data for locating the building.

Typical notes for a plane-table survey are shown in figure AIII-16.

DESIGNATION BM G1 TO BM G2 DATE 12 JAN 19 94

⌞ JONES EA2 INST DIETZGEN DUMPY LEVEL
⊕ KURTT EA3 NO 1234

REMARKS

WEATHER FAIR
WIND NW 6
TEMP 42°

BEYVOIR RD
21ST ST
BRASS DISK IN GROUND
RD 1ST ST
RED SQ ON COR SWK
BRYBY RD
78° = 48° CONC MH
63 RED SQ

AE = .05√NI = .05√33
AF = .03

Figure AIII-4.—Page check.

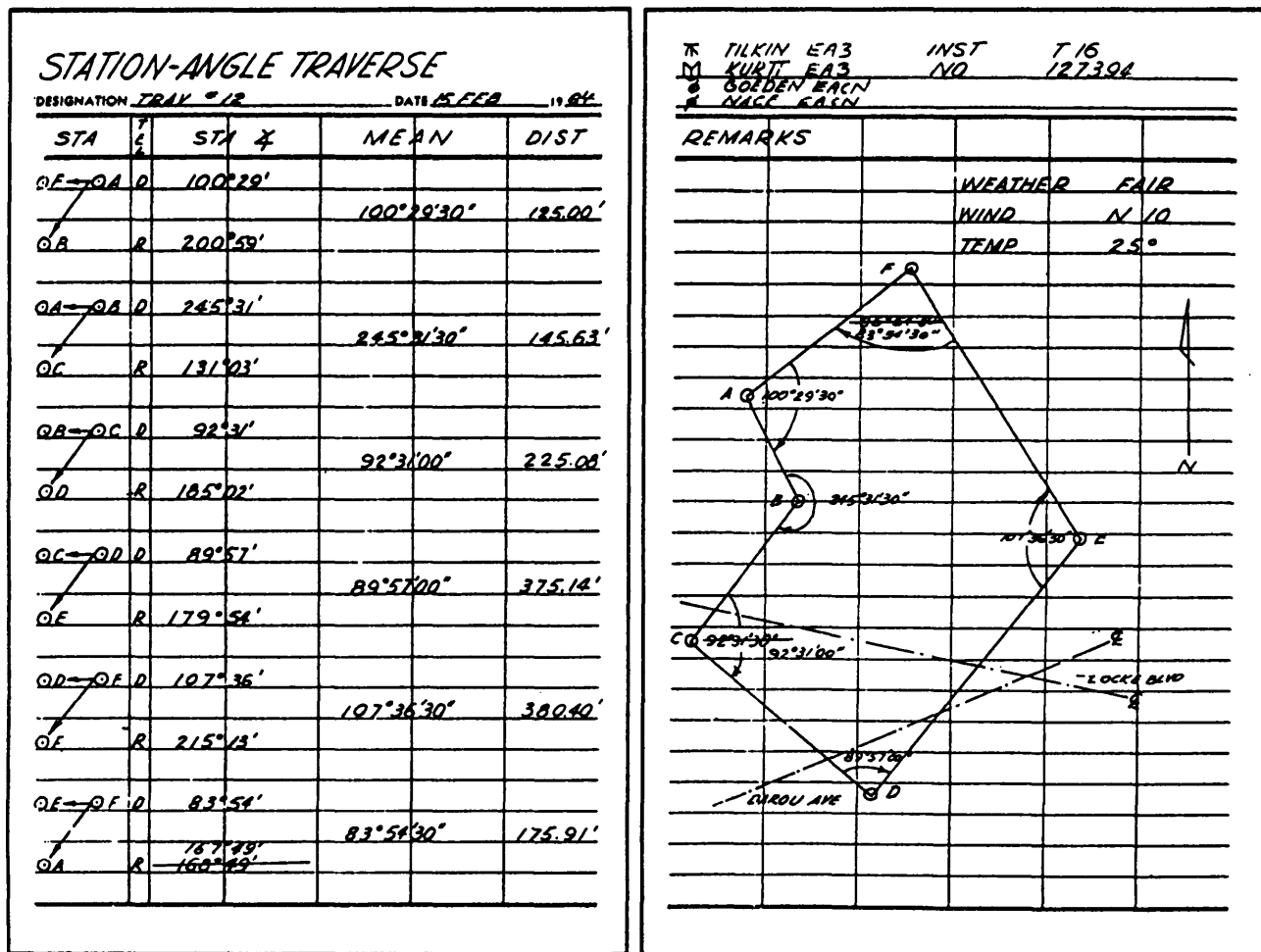


Figure AIII-6.—Station-angle traverse.

DEFLECTION-ANGLE TRAVERSE				
DESIGNATION <u>TRAY "12-A"</u>		DATE <u>17 FEB</u> 19 <u>84</u>		
STA	DIRECTION	DEFL \angle	DIST	
OF \rightarrow OA	R 286°30'	L 79°30'		
OA	R 200°59'			
MEAN		L 79°30'30"	125.05	
OA \rightarrow OC	R 65°32'	R 65°32'		
OC	R 131°03'			
MEAN		R 65°32'30"	145.69	
OC \rightarrow OD	R 272°31'	L 86°29'		
OD	R 185°02'			
MEAN		L 86°29'00"	225.05	
OD \rightarrow OE	R 269°57'	L 90°03'		
OE	R 179°54'			
MEAN		L 90°03'00"	375.10	
OE \rightarrow OF	R 287°37'	L 72°23'		
OF	R 215°13'			
MEAN		L 72°23'30"	380.42	
OF \rightarrow OA	R 263°54'	L 96°06'		
OA	R 167°49'			
MEAN		L 96°05'30"	175.96	

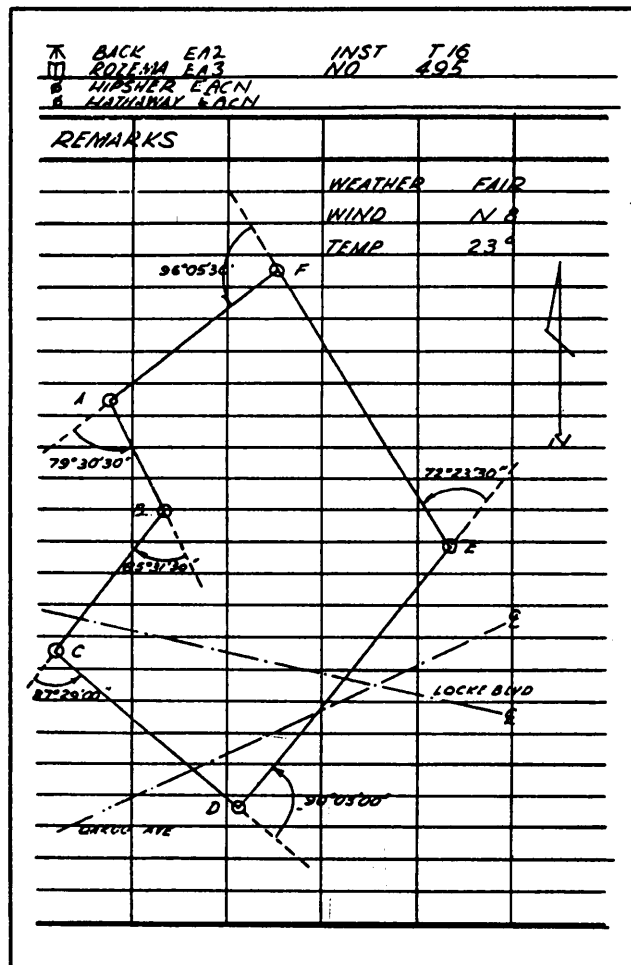


Figure AIII-7.—Deflection-angle traverse.

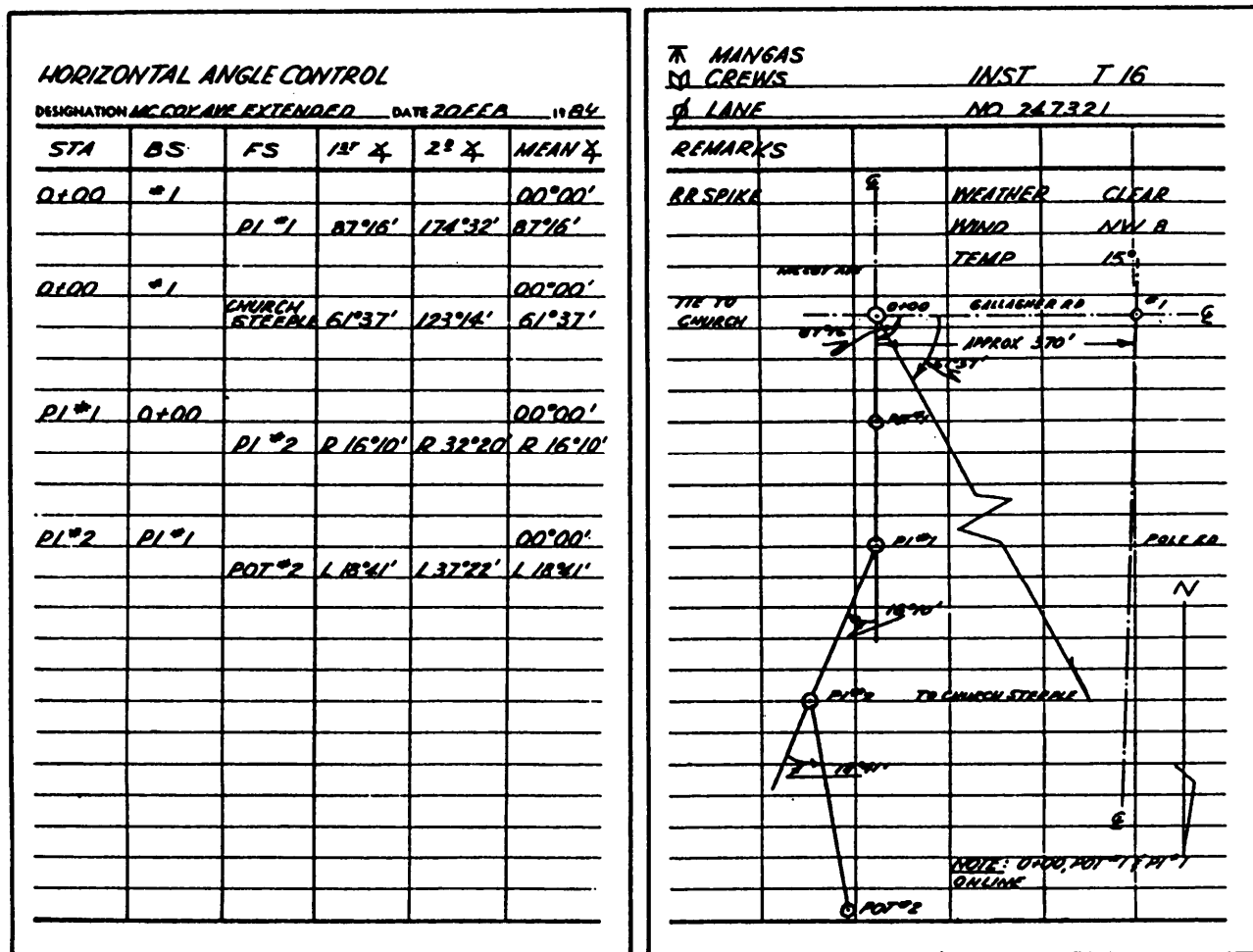


Figure AIII-8.—Horizontal angle control.

HORIZONTAL TAPING				
DESIGNATION <u>MC COY AVE EXTENDED</u> DATE <u>22 FEB</u> 19 <u>84</u>				
STA	FWD	BKWD	MEAN	
0+00	62.86'	86.21'		
	71.43'	48.05'		
POT #1	134.29'	134.27'	134.28	
POT #1	96.84'	79.78'		
	92.71'	100.00'		
	100.00'	86.19'		
	73.86'	97.42'		
P1 #1	363.41'	363.39'	363.40	
		363.39'		
P1 #1	100.00'	94.23'		
	85.41'	97.18'		
	96.20'	90.20'		
P1 #2	281.61'	281.61'	281.61'	
P1 #2	100.00'	98.10'		
	97.00'	66.80'		
	54.65'	88.03'		
POT #2	251.65'	251.63'	251.64'	

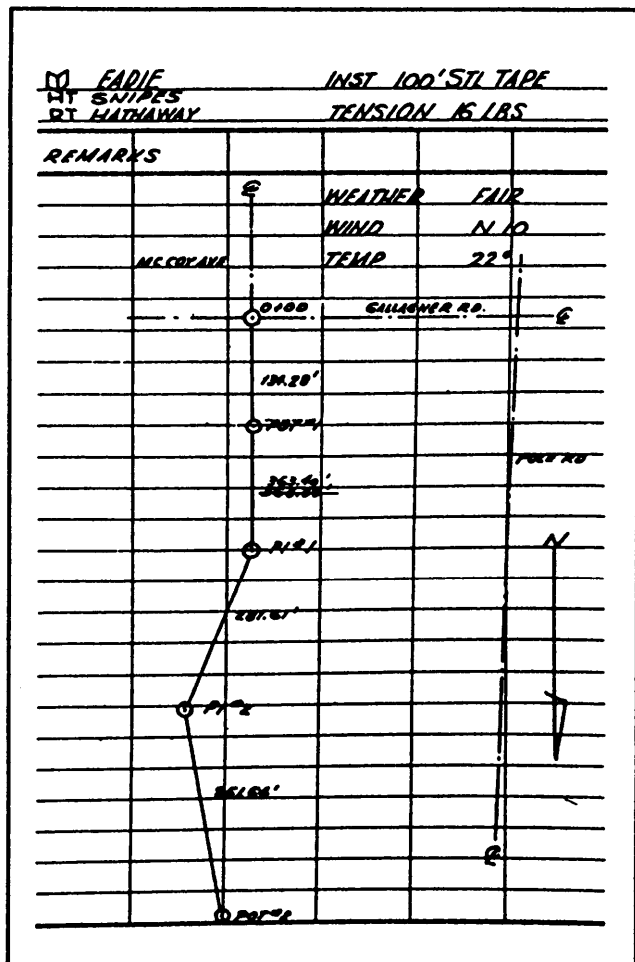


Figure AIII-9.—Horizontal taping between stations.

DESIGNATION MC GOY AVE EXTENDED DATE 24 FEB 19 64

T LOCKE
 M CREWS INST GUREY DUMPY LEVEL
 STADELMAN
 HIPSHER NO 2468

Figure AIII-10.—Differential leveling.

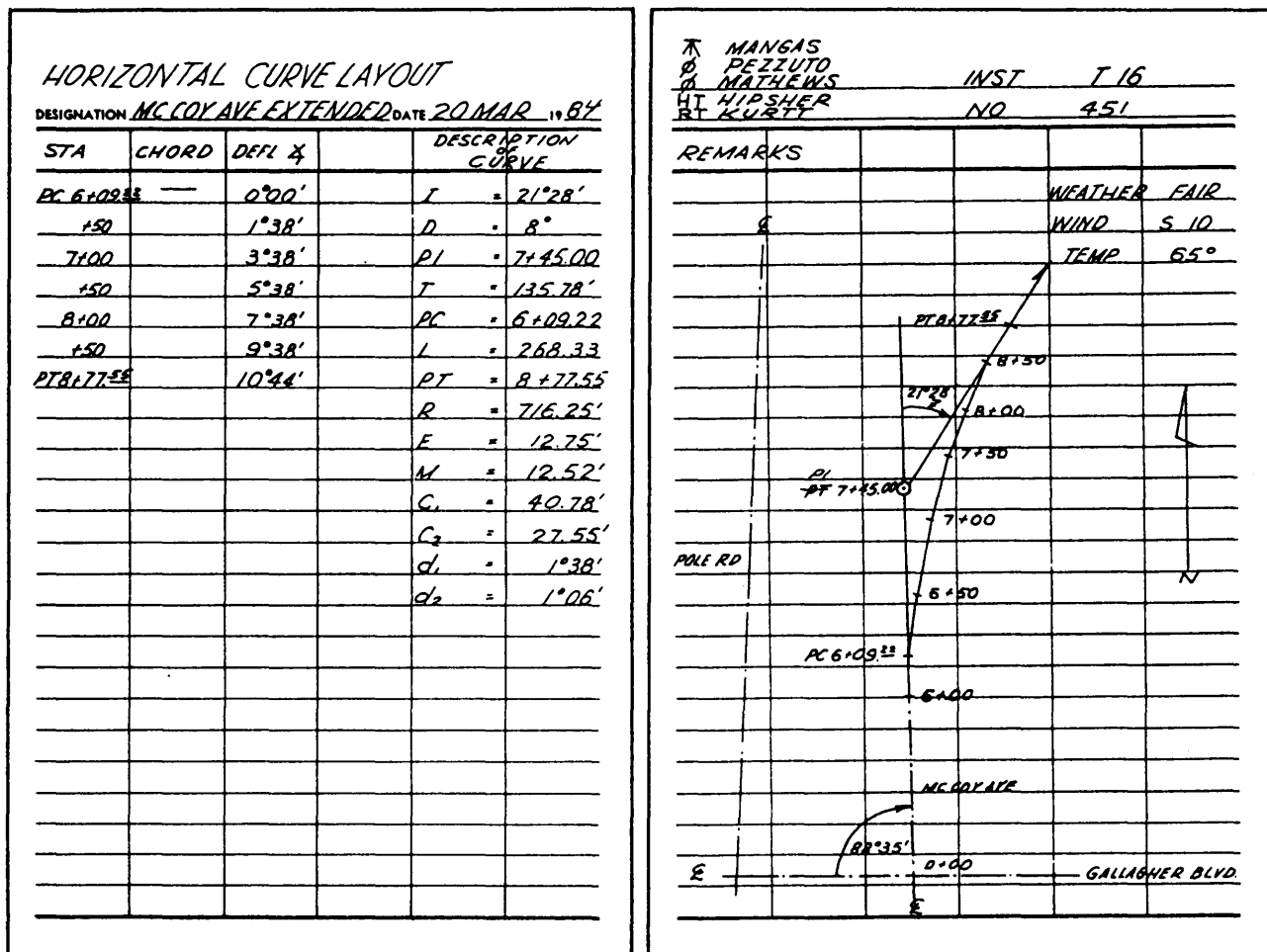


Figure AIII-11.—Horizontal curve layout.

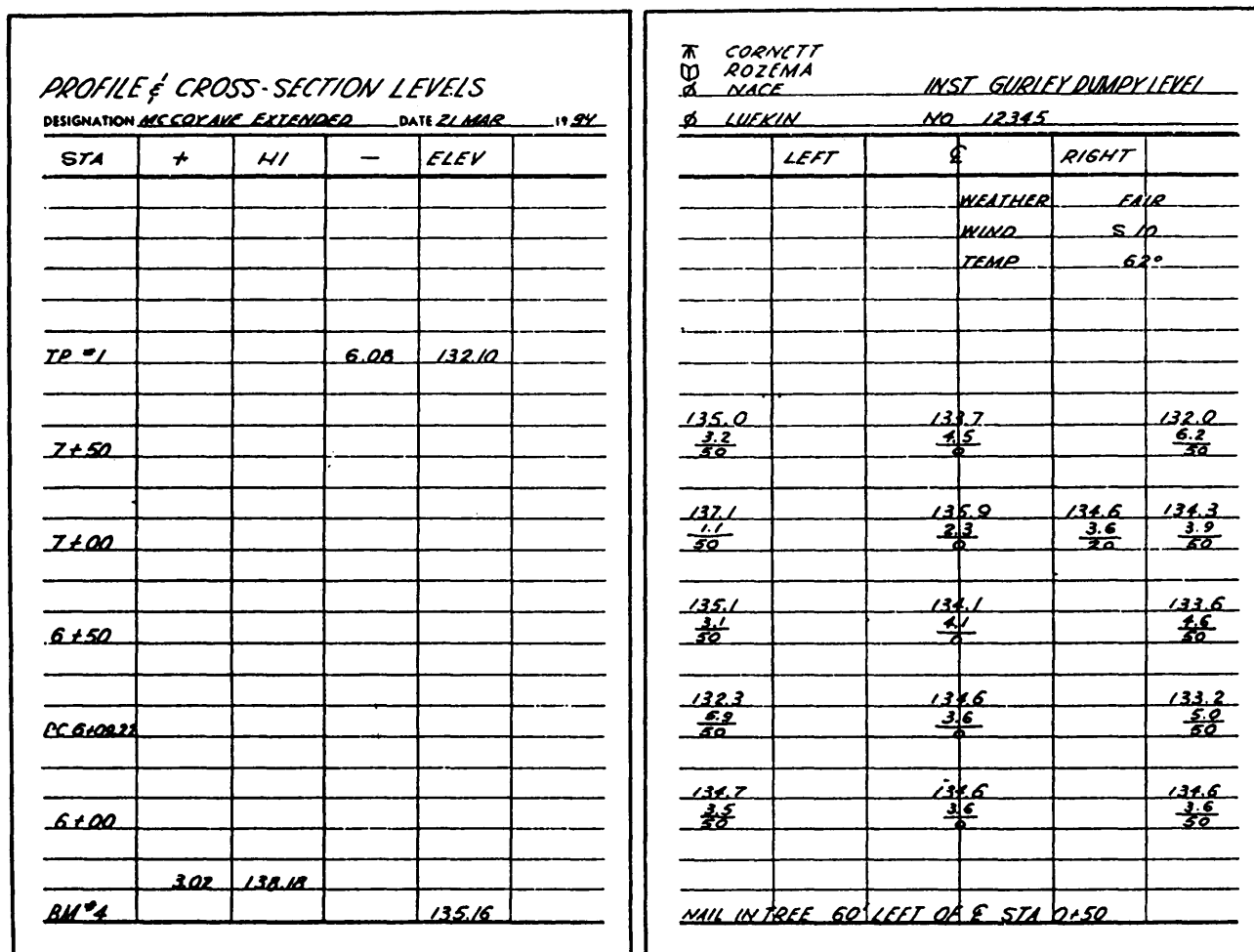


Figure AIII-12.—Profile and cross-section levels.

DESIGNATION BLOG T-2855 DATE 1 APR 19 84

T SNIPES
 B TILKIN
 P LUEKIN
 COWART
 INST KEE LEVEL
 KEE I' TRANSIT
 NO 451206/4219

AIII-15

